

J2EE vs. Microsoft® .NET Market Bulletin

Performance

June 2001

Common Java 2 Enterprise Edition (J2EE) Vendor Claims

Sun's iPlanet group, IBM, BEA and other J2EE vendors claim that a J2EE-compliant solution is the most scalable, high-performance way to design a distributed enterprise application.

TPC BENCHMARKS ARE RELEVANT

J2EE vendors say, for example, that the TPC-C (Online Transactional Processing capability) benchmark is no longer relevant, and that it just doesn't measure anything that is interesting in today's world of e-business.

- While TPC-C does not demonstrate a web-oriented distributed (possibly transactional) application, which is the target many enterprise customers are shooting for these days, the TPC-C is a time-tested industry standard. Before Microsoft was in the top-10, the TPC-C was interesting to all the competitive vendors. Now that Microsoft is leading that transactional benchmark, the TPC-C is being dismissed by certain competitors.
- An alternative benchmark has not yet emerged to become popular. If or when that occurs, Microsoft will likely support that new benchmark. Until that happens, TPC-C remains primary.

VENDORS FREQUENTLY DOWNPLAY THE PERFORMANCE ISSUES OF J2EE APPLICATIONS

J2EE supporters say that Moore's Law and the rapid rise of networking throughput have made top-end system performance unimportant. What is more important, they say, is programmer productivity. And they will say that this is where enterprise Java really shines. We agree that programmer productivity is very important - this has been the pillar of the Microsoft value proposition for a long time. But we believe performance is still critically important, and that Microsoft offers advantages over J2EE offerings for programmer productivity. Furthermore, we believe J2EE-architected platforms (as opposed to just Java) actually represent a riskier choice - because they are:

- **Complex** - The J2EE platform is hard to learn. A leading analyst recently found that training a developer on Java may cost as much as \$65,000. Another analyst mentions the "steep learning curve" associated with Java.
- **Slow to evolve** - The J2EE specification is still not complete. For example, there is still no standard way to map between Entity Enterprise Java Beans and XML documents. Each vendor solves this problem a different way. There is no standard way to get XML from JDBC.

- **Poorly supported in the commercial marketplace** - Examining <http://componentsource.com> or other component portals, we find almost twice as many categories of components for Microsoft's platform vs. EJB. In addition, the top 10 selling components are all exclusively for the Microsoft platform.
- **Rarely implemented in full** - J2EE proponents say the use of Java Servlets and Java Server Pages will provide programmer productivity advantage without all the complexity of EJB. There is some validity to this point, but this approach necessarily excludes transactional capabilities, standard messaging, events, load balancing, etc. Not using EJB's is analogous to using only Active Server Pages (scripting) to build applications. It is simpler, but the ability to build richer applications will be limited.
- **Not in the TPC benchmarks** - . The independent TPC-C study (www.tpc.org) doesn't have any J2EE submissions, nor does the Web Application Server benchmark from July 1999, done by PC-Week, even though the J2EE specification has been available since May 1998. One question readers may have is, "**what about IBM's WebSphere Application Server?**" IBM WebSphere App Server, Advanced Edition, the version that is J2EE based, is not represented on the TPC-C list, despite the fact that IBM is very active on TPC-C. In fact, IBM uses COM+. The Enterprise Edition of WebSphere does show up on TPC-C, but it is IBM's older, non-Java, non-J2EE procedural transaction processing monitor product, formerly known as Encina. This is easily verified by examining the source code in the TPC-C full disclosure report - there is no Java code. Though WebSphere Application Server, Enterprise Edition shares a name with the newer Java-based WebSphere App Server, Advanced Edition, it shares no technology. And, the IBM submission that uses WebSphere Enterprise Edition scores much lower than the IBM submission that uses COM+ as the middleware.

Performance seems to be of concern for most J2EE vendors. In fact, Oracle recently replaced their application server's J2EE engine with that of a third party to try to get improved performance - Larry Ellison stated that Microsoft .NET was the standard to beat. Microsoft currently leads performance benchmarks like TPC-C and Web Application Servers by PC-Week.

J2EE VENDORS SAY MICROSOFT'S PLATFORM DOESN'T HAVE THE PERFORMANCE YOU NEED

- Our customers are our best testament to the performance and reliability of the Microsoft server-side platform. Some of the most high-volume commerce applications and sites on the Internet today run on Windows® 2000 Server and Microsoft COM+ technologies. Consider just a few examples among many:

<http://www.barnesandnoble.com>

<http://www.1800flowers.com>

<http://www.buy.com>

<http://www.nasdaq.com>

<http://www.lycos.com>

<http://www.freemarkets.com>

See <http://www.microsoft.com/solutions/ecommerce/B2C.htm> for more.

In a recent, widely reported switch, Lycos recently switched from a UNIX platform to Microsoft Windows 2000 for their web server architecture. GMAC

Commercial Mortgage also recently switched, stating the key reasons as performance, speed-to-market, and interoperability. Clearly, the marketplace is depending on Microsoft's server platform for high-volume, secure systems.

Where to go for more information

TPC Performance Benchmarks:

http://www.tpc.org/tpcc/results/tpcc_perf_results.asp

Case studies:

Nasdaq: <http://www.microsoft.com/servers/evaluation/casestudies/Nasdaq.htm>,
<http://corp2.unisys.com/AboutUnisys/PressReleases/1999/may/05056706.html>

Barnes & Noble:

<http://www.microsoft.com/servers/evaluation/casestudies/barnes.asp>,
<http://www.microsoft.com/dns/ecommerce/Barnes.htm>

Independent Discussion of J2EE vs. .NET by Roger Sessions

http://www.objectwatch.com/issue_24.htm

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